Det. Bel Isle & Windsor Ferry Co 08

DEVOTED TO NAVIGATION, COMMERCE, ENGINEERING AND SCIENCE.

VOL. X NO. 37. CLEVELAND, O., SEPTEMBER 20 1888. $2.00 PER ANNU SINGLE COPIES 5 CENT

AROUND THE LAKES.

CLEVELAND.

Captains Stevens and Stewart, of Alpena boats were in port this week.

Captain Robert McNiff, founder of the St. Clair Flats range lights, is in the city.

Mr. Alfred Buie left for Buffalo today to join the steamship R. P. Flower as chief engineer.

The firm of Bassett, Presley & Train report active inquiries, but no recent contracts made.

Last week the steamer E. P. Wilbur made the run from the Sault to Duluth, 460 miles, in twenty-seven hours.

Daniel Conway has been appointed engineer of the steamer Cormorant, vice Mr. June resigned to take a position ashore.

The river tug Crusader leaves here today with the schooners Golden Fleece, Red White and Blue and the Cheney Ames.

It is not yet known who will furnish the material and do the work on the superstructure of the east breakwater, although the bids have been forwarded to Washington.

Captain Henry, manager of the Lehigh line, was in the city this week, presumably, on business relative to the proposed new steamboat to be built by the Globe Iron Works company.

Captain John Swainson, assistant editor of the MARINE RECORD, paid Buffalo a visit Tuesday. Captain Swainson reports times in marine circles booming, and that a good fall trade is looked for.

Mr. H. Perry and family returned last week from a pleasant trip of two weeks in the wilds of Michigan. Mr. Perry reports a good time, and dilates upon the courtesy of the officers of Captain Grummond's steamer Atlantic.

Mr. Harvey C. Beeson, of Detroit, was in the city yesterday, and favored this office with a visit. Mr, Beeson is the author of a marine book published in Detroit last year, and he informs us that he has met with an excellent sale of his work, the whole edition having been disposed of.

The Cleveland drydock is still kept busy having had, since our last publication, the R. R. Rhodes in for bottom searching and the schooner Warmington for new stem. At the present writing the steambarge Cormorant is in for a new wheel, and following her the steamship Yakima for part new fore foot.

George Saal's son, Fred, has removed his office and works to 313 and 317 Detroit street, where he has enlarged room and better facilities for doing all kinds of steamboat work and plumbing. Mr. Saal now has one of the best lines of hardware, stoves and ranges, and other goods that can be found in the city, and a large force of competent workmen to do work promptly and in the best manner. During the busy season of shipbuilding he has done more work on ships than any other firm in the city and solicits the patronage of his old friends in his new quarters. Any one who wants work well done will do well to give him a call.

The Globe Iron Works company are extending their building by making a brick two story structure on the south-west corner of their present works. The extension will be used on the ground floor as an additional boiler shop, machine shop, and stock rooms, and up stairs the sheet iron room will be furnished with complete facilities for carrying on the extensive work of this firm. The improvements are expected to be finished in about ten days.

Meteorological summary for the week ending September 18, 1888:

Mean actual barometer	30.02
Mean temperature	61.1
Mean humidity	69.3
Total precipitation	.85
Prevailing direction of wind	S. E.
Total wind movement	1307
Av. cloudiness	4 4
Av. state of weather	Fair.
Max. temperature, highest	78.8
Min temperature, lowest	41.5

W. H. HAMMON, Sergt. Sig. Corps, U. S. A.

The last drill of the life savers took place at four o'clock on Monday, and it was witnessed by quite a large number of people. The work of the crew is very rapid and reflects great credit on keeper Goodwin. A special feature of the drill consisted in showing off the qualities of the Dobbins self-righting life boat in case it is capsized by a heavy sea. The boys have become so proficient in this matter that it is but play for them. They go under the boat with burning cigars and water enough does not reach their throats to put out the fire.

CHICAGO.

Special to the Marine Record.

Last Thursday at midnight the schooner Windsor, laying at a dock near South Halsted street bridge, where she had been unloading a portion of her cargo of cedar posts, was collided with by the steambarge Berrien going up the river. The Berrien struck the Windsor forward of amidships and carried away her fenders and started her butts and seams so badly that she had three feet of water in her hold in the morning. The remainder of her cargo was taken out and she was then taken to Miller Brothers' drydocks for repairs.

At the Chicago Drydock company's the propeller J. L. Hurd was in dock for repairs to stern bearing and wheel and some calking, the schooner Rising Star was in dock to have a leak stopped, the government tug Lorena and three scows for repairs and calking all over, the schooner James Mowatt, Lotus, Scotia, C. L. Fick, L. M. Mason, E. P. Royce and Julia B. Merrill received necessary repairs, the schooner A. E. Vickery new jibboom, martingale and spritsail yard.

The Chicago board of underwriters have fixed the rates on grain from September 15th to October 1st: To ports on Lake Michigan 40 cents, on Lake Superior 70cents, on Lake Huron, Sarnia and Detroit river 50 cents, on Georgian bay and Lake Erie 60 cents, on Lake Ontario and Ogdensburg 75 cents, Montreal $1.10. The rates on A2½ vessels 50 per cent. additional, and on B1 100 per cent.

The schooner Westside arrived here Saturday night in tow of Grummond's tug, M. Swain. The Westside lost all her canvas, except her fore gaff topsail, in a heavy gale the Monday previous, twenty miles off Manitoulin Island.

The schooner Norman has received new main and mizen masts, square sail yard fore stay, flying jib stay, and anchor stock at Miller's shipyard.

Thomas Bagley is building a center board schooner rigged boat 28 feet long, 8½ feet beam, 3 feet deep, for the 9th district Lake Michigan light house department for use at Porerty island; two boats 26 feet long, 7 feet beam, 2½ feet deep, for use at the new Chicago water works crib, also a fishing boat 25 feet long for South Chicago parties, and yawl boats for the schooners De Los de-Wolf, Flying Cloud and Loomil A. Burton.

Advices from Port Huron state that the steambarge City of Saint Joseph, owned by the Harvey Lumber company of this port, was on fire two miles below the former port on the afternoon of September 15th. Captain Comstock ran her aground on the Canadian side and himself and crew got ashore. The captain and crew lost all their clothes, and the captain also lost $150. Her machinery is badly damaged.

The steamer Unadilla, recently sold by Charles P. Willard & Co. to Captain James Leitch, of Belisee, Honduras, having had her hull coppered and been fitted with a brass propeller wheel and a surface condenser for salt water navigation, started today on her trip to South America via the Illinois and Mississippi rivers to the gulf.

The new steel steamship E. P. Wilbur arrived in port last Wednesday with 2,500 tons of coal aboard. She was taken up to the Lackawanna docks, where her cargo was hoisted out in two days, or at the rate of 1,250 tons a day. She then steamed up to Armour's new elevator on the North Branch, took on 95,000 bushels of corn, and at 9 o'clock that night was under way to Buffalo.

The new steamer which the Goodrich Steamboat company is building at Manitowoc is the initial boat of the new fleet which that veteran line will put into the Lake Lichigan passenger traffic. As soon as she is off the blocks another steamer of similar build will take her place, so an official of the company says, and the work of building will be continued until the fleet is completed. The new boat, while in general finish and furnishings will excel anything on this lake, will be more particularly marked by her high speed, which the passenger traffic now demands. The time between Chicago and Grand Haven will be materially shortened, as soon as the new boats are completed the other routes will be likewise changed. The increase in speed between the old and new boats will be about three miles an hour. Captain Butlin has abandoned the side-wheel, and the new steamers will be propellers, as the latter have proved the most economical in fuel. The movement toward faster boats by the Goodrich company, whose name has become synonomous with the conservative in marine business, marks a new era in Lake Michigan passenger lines. WILLIAMS.

MILWAUKEE.

Special to the Marine Record.

The yard here wont do much if any new work, as Wolf says he is going to sell out this winter.

The yard at Sheboygan is doing an immense business and Starke is correspondingly happy. They intend building a new barge and probably two new tugs to take care of the large boats, the small ones they now have being inadequate to handle our large boats.

The Rugee and Helena arrived Sunday with coal. The Helena did not bring up a full load because it was not to be had. It was reported that she had some 104,000 bushels of corn out of Chicago, but that was a mistake as she only had 96,000 bushels. The record made by this boat is something to make her owners as well as her builders proud.

We had the Neosho in last week and the comments on her appearance were many and all were complimentary, as she is as fine a freighter as there is on the lakes.

The new shipyard at Sheboygan is equipping themselves with all the appliances for doing repairs and building new boats. They have put in a new boiler and new boxes or floating dock and expect to do their share of the work on this lake. Mr. Starke is a pusher and gets there every time.

The Milwaukee Shipyard company, after a great many vexatious delays, have at last got their new stationery dock in running order. The F. & P. M. No. 3 was in the dock to be put in shape for winter work in the ice.

The steam schooner Pewaukee was in port Monday on account of too much weather. She is, as the Evening Wisconsin says, a little faster than a snail when the wind is dead ahead. This experiment is hardly a success, as when she has her sails up they cannot use the wheel on account of the list of the boat. And when her wheel does not work she is retarded just so much in dragging it. They will convert her into a steambarge this winter and give her more power.

R. P. Fitzgerald & Co., of this port, were in Detroit lately and made contracts for two new boats for their line to be about the same general build as the Fitzgerald.

There is some talk of two new boats, of about 450,000 lumber capacity, to be built here or at Manitowoc by prominent mill men of Manistee.

Sheriff's report shipping two wheels to Manistee, six to Duluth, two to Marquette, and one to Green Bay the past week.

The Goodrich Transportation company, of Chicago, are building a new propeller at Manitowoc to be about 210 feet long, 38 feet beam. She will be engined with a 28 and 54 by 40 fore and aft compound, built by Charles F. Elmes, Chicago. J.

BUFFALO.

Special to the Marine Record.

The hull of Captain Maytham's new tug is drawing towards completion at the yard of McMahon & O'Grady, and as the machinery is almost constructed she will soon be able to take part in the Buffalo towing business. We are informed that she is to be named the S. W. Gee and it is expected that she will prove herself the most powerful harbor tug on the chain of lakes. In our opinion their is every likelihood of her owner's expectations being realized, and we welcome the addition of a superior vessel at all times and will be pleased to furnish our readers farther particulars of the craft later on.

Mr. Provost, the well known sail maker of this port, has recently returned from visiting his friends in the State of New York, and we are pleased to note that his vacation was an enjoyable one.

Mr. David Bell has recently furnished a new speed wheel, of his own construction, for the yacht Corsair of New York, replacing one of Messrs. Cramp's Philadelphia wheels.

Mr. Howard of the firm of Howard H. Baker & Co., has just returned from an extended tour over the U. K. and the continent. Mr. Howard had the pleasure of meeting several of his Cleveland friends on the Atlantic steamer.

Mr. Johnson of the firm of Hands & Johnson, tug owners of this city, informs us that they are building two new boats for harbor towing purposes. The first of these boats is expected to be ready in three weeks, and the second in about five weeks.

The manager of the new Brown hoisting machines, being erected here, informs us that they are getting along satisfactorily with their work, and will soon have the new hoists ready for use.

Mr. Riter of the Eagle Boiler Works, says that they are very busy and are receiving a liberal share of the patronage. They have had recent inquiries for the Scotch boiler, the latest improved hydraulic machinery in use by this firm on all classes of work, gives valuable assistance in closing speedy contracts.

H. G. Trout, of the King Iron Works of this city, has shipped to Cleveland a new propeller wheel for the steamship Comorant.

SAND BEACH.

Special to the Marine Record.

The following craft sheltered here the past week:

11th, Prop. Messenger and two. 12th, Sch. Fellowcraft, E. R. Williams, Niagra, Marly L. Higgie, C. H. Johnson, Alvina, Garabold and Ironsides. Steamer D. M. Wilson and four, L. Pahlow and one, Mineral Rock and three, H. S. Hubbell and one, New Orleans and Flora. 13th, Arctic and one. tugs Kitty Smoke, J. V. O'Brien, steamer Ohio. 14th, Runora, tug Kate Williams. 15th, Schooners Reliable, Dauntless, tug Rob Andsrson, Burlington and four, Porter Chamberlain and three, Oswegatchie and two, propeller Bessie. 16th, Propeller Don M. Dickinson and four, the Norway of her tow leaking badly, Ira Chaffee and three, Lowell and five, tug Sweepstakes, barge J. S. Ruby and tug M. F. Merrick with a wrecking gang and two pontoons going up to wreck the propeller Osceola.

The barge Ferguson, of the Burlington's tow, sprung a leak coming around Pt. Aux Barques and called on the life saving crew for help while in the harbor. T.

CHEBOYGAN.

The man Stevenson, who was stabbed by the cook of the tug Leviathan in self-defense, will undoubtedly die. The knife was driven almost to the hilt under the right arm while Stevenson, with uplifted hand, was about to plunge a large meat fork into the cooks body. Stevenson is a bad character, and desperate when drunk. He has been in jail many times for depredations committed on several occasions. The cook was arrested, but released on $1,000 bonds.

SAULT STE MARIE.

The steambarge C. H. Green grounded heavily at Point aux Pins, just above the city, completely blocking the passage, except to vessels of light draught. Relief was sent at once.

BAY CITY.

Special to the Marine Record.

The propeller Oneida which has been tied up all season a complicated litigation at Chicago, and which was recently purchased by James Davidson and others of Bay City Mich., loaded grain for Port Huron immediately after the transfer was made. After discharging her cargo, she was ordered to Davidson's shipyard West Bay City where she now is, and where ship carpenters, caulkers and painters, are now busily employed preparing her for the fall trade. Forty-five men are at work on her. TRIDENT.

ST. CLAIR FLATS CANAL.

Special to the Marine Record.

McNiff and son have placed on the Walpole Island mill dock, opposite the ranges on Russel Island, two bright lights parallel with each other, making two lights abreast showing up and down the river. Making the channel so it can be easily navigated in bad weather. We contemplate putting lights on the head of Stag Island at or across from Marysville, so that boats can go the American or Canada side of island. MAC.

THE EAST BREAKWATER.

During the present season the contractors on the east breakwater have placed in position 350 feet of piling and cribs, extending east from the portion which was completed during the season of 1887. This increases the entire length of the east breakwater to nearly 1,200 feet. The 350 feet which has been partially completed the present season reaches only to the surface of the water, and to protect the cribs from the action of the waves and ice it will be necessary to build a superstructure twelve feet in height and thirty-two feet wide of timber securely bolted to the cribs. This superstructure will be made of white pine and white oak timber one foot square, which will be dovetailed and bolted together in the most substantial manner possible, and when completed will be filled with close grained limestone or granite. After this is done a deck of three-inch plank bolted to six and ten-inch oak joist will be made. The materials for the work are estimated at 290,000 feet of white pine, 17,000 feet of white oak, 750 cord of filling stone, 3,200 pounds of drift bolts, 3,850 pounds of spikes.

The drift bolts are made of 1½ inch round iron, and 30 and 23 inches in length. The spikes are 12 inches by ½ inch square, and 9 inches by 7 16 inch square. On August 16, L. Cooper Overman, major of engineers, who is in charge of the work of constructing the breakwaters, advertised for proposals for the construction of the superstructure, and at 11 o'clock Friday morning the bids were opened.

The abstract of proposals for furnishing the materials and doing the work is as follows: L. P. and J. A. Smith, white pine, 290,000 feet, $40 per thousand; white oak, 17,000 feet, $50 per thousand; filling stone, 750 cords, $6 per cord; removing and replacing decking $50 for each 50 lineal feet; iron-drift bolts, 3,200 pounds, 4 cents per pound; spikes, 3,850 pounds, 5 cents per pound; S.&W. bolts, 100 pounds, 5 cents per pound. Charles H. Strong & Sons' bid was: White pine, $45 per thousand; white oak, $70 per thousand; filling stone, $10 per cord; removing decking, etc., $100 pe. fifty lineal feet. Wallace M. Pattison, representing the George Worthington Company, made the following bids for iron only: Drift bolts and spikes, 2 45 100 cents per pound.

Major Overman states that the last bid is very satisfactory, while those for the woodwork are not. Yesterday the proposals were forwarded to Washington where the awards will be made at once. The amount set apart by the government for this work is $12,000, exclusive of office expenses and salary of superintendent.

Messrs. Wolf & Davidson are rushing work on their new boat as fast as possible, and will probably be able to make a trip with her this fall. Sheriff's are putting in the machinery.

MARITIME LAW.

District Court, of the United States for the Eastern District of Michigan.

Where a vessel is sold by a trustee under the limited liability act and the proceeds of sale are paid into court, the clerk's commission is payable from such proceeds, even though the owner appears and contests the liability of the vessel for her losses.

A claimant who desires to contest the liability of the vessel, and gives a stipulation for costs under general admiralty 26, is liable only for the costs properly incident to such contests.

Where a vessel is sold by a trustee under the limited liability act the marshall is not entitled to a commission.

Where a witness attends from out of the district mileage can only be taxed to the extent of one hundred miles.

Where two libels were filed against the same vessel for two losses occasioned by the same disaster but the two causes were never consolidated, held that double mileage and attendance should be allowed though the witnesses were sworn but once and their testimony was read in both causes.

The charges of a person employed to make soundings and prepare a map of the locality of a collision cannot be taxed as disbursements.

On appeal from taxation of costs.

The Vernon was arrested upon two libels for negligence in towing the schooner Senator and Watson upon the rocks at the mouth of Detour river. Damages were claimed in the aggregate sum of $35,000. The Vernon was released upon the usual stipulation to answer judgment, and subsequently her owners, the petitioners in this case, instituted proceedings for a limitation of their liability as owners. Under the statute, sec. 4285 they elected to transfer the Vernon to H. A. Harmon, as trustee, and thereafter the said trustee proceeded to take possession and sell the vessel. She brought $23,150. The proceeds of the sale, less the trustees costs and expenses, were paid into court, and petitioners thereupon proceeded to take issue with and to contest the claim of liability for the loss of the schooners, but a decree was finally rendered in favor of the owners of the Senator in the amount of $12,000, and costs for the damages suffered by the Senator and her cargo. To the owner of the Watson the court decreed $22,156 and costs. The questions arising upon the taxation appear in the opinion of the court.

Mr. H. C. Wisner, for the petitioners.

Messrs. H. H. Swan, and F. H. Canfield for the libelants.

Brown, J.

Petitioners appeal from the clerk's taxation of the following items.

CLERK'S COMMISSION UPON THE PROCEEDS OF SALE.

By R. S. sec. 828, the clerk is entitled to a commission of one per cent for receiving, keeping, and paying out money in pursuance of any statute or order of court. As the proceeds of sale to the amount of $23,150 were paid into the registry of the court by the trustee, no objection is made to the taxation of the commission. The only question is by whom it should be paid.

Ordinarily where money is collected upon an execution it is the duty of the marshal to add the clerk's poundage as well as his own to the amount of the judgment, and collect it of the defendant, as the plaintiff is entitled to the whole amount of his judgment. Fagan vs. Cullen, 28 Fed. Rep., 843. In re Goodrich, 4 Dillion, 230. Upton vs. Trebitcock, 4 Dillion, 232. Kitchen vs. Woodfin, 1 Hughs 340, 342. Blake vs. Wilkins, 19 Fed. Rep. 204.

Such is undoubtedly the rule in admiralty, where an ordinary stipulation is given to answer the decree of the court, and execution is issued against the claimants and their stipulators.

By the limited liability act, R. S. sec. 4285, a new right is given to the owner of the ship, viz. the right to transfer her to a trustee," from and after which transfer all claims and proceedings against the owner shall cease." This transfer being effected, proof of all claims, (general admiralty, rule 55,) shall be made before commissioner, and upon completion of the proofs the commissioner shall make report, and upon the comfirmation of such report, the proceeds of the ship or vessel and freight, "after payment of costs and expenses," shall be divided pro rata among the several claimants. This, no doubt, contemplates the payment of all costs and expenses necessarily incident to the sale of the vessel and the proof of the claims including the clerk's commission upon the money paid into court. If, however, the owner chooses to contest the liability of the ship for the losses, as he may do under rule 56, he is bound under rule 26 to give the usual stipulation for the costs incident to that contest, including the fees of the clerk, marshal, proctors, witnesses, etc., but not, I think, including the clerk's commission, which is payable whether he contests or not. Costs are within the discretion of a court of admiralty, and I think equity demands that where a party contests a claim for damages he ought to be mulcted only in the interests upon the fund, and in such costs as necessarily arise from that contest. Costs, which but for such contest would be paid from the fund, ought, I think, to remain chargeable against the fund. If the petitioner had been successful in contesting his liability for the loss, he would undoubtedly be bound to pay this commission himself, when he withdrew the proceeds of the sale from the court, since it attaches to the fund itself and not to the litigation out of which the fund arises.

THE MARSHAL'S COMMISSION UPON THE FUND IN COURT.

By section 829 the marshal is entitled to a commission in admiralty cases in two contingencies, first, where the debt of claim is settled by the parties without a sale of the property, he is entitled to a commission of one per cent on the first $500, and one half of one per cent on the excess. This contemplates a settlement of the case between the parties before trial, in which case the marshal is entitled to his commission upon the amount paid in settlement; but as the cases under consideration were never settled, but were contested through to a final decree, it is evident that the marshal is not entitled to a commission under this clause. For the sale of vessels or other property under process in admiralty or under the order of the court of admiralty, and for receiving and paying over the money, he is entitled to a larger commission. But as the vessel was never sold by him, it is clear that he is not entitled to a commission under this subdivison. That it would be inequitable to allow him this commission is apparent from the fact that the trustee who makes the sale, either receives a commission or compensation in the nature of a commission upon such sale. Indeed, I understand this item to be practically abandoned upon the argument.

MILEAGE OF WITNESSES FROM OUT OF THE DISTRICT.

Libelants claim the right to charge the full mileage of witnesses from out of the district, though there is no doubt their depositions might have been taken. Petitioners, upon the other hand claim, that under the construction given to this statute by this court they are entitled to charge only for the distance of one hundred miles. Probably there is no question connected with costs in the federal courts upon which there is a greater conflict of authority. In the first circuit it has been uniformly held from 1842 to the present day that the successful party was entitled to the mileage of his witnesses, regardless of the distance or of the fact that that they came from out of the district. The rule was first announced by Mr. Justice Story in Prouty vs. Draper, 2 Story, 199 was reiterated by the same judge in Whipple vs. The Cumberland Manufacturing Co., 3 Story, 84; was recognized and approved by Mr. Justice Woodbury in Hathaway vs. Roach 2 W. & M. 63 73, and was finally again exhaustively considered and reaffirmed in the United States vs. Sanborn, by Mr. Justice Gray 28 Fed. Rep. 299. It was admitted, however, by Mr. Justice Story that under the state practice in Mass. the travel of the witness could only be taxed from the line of the state.

Melvil vs. Whiting, 13 Pickering, 190 White vs. Judd, 1, Met 293.

In the second circuit, the rule is as well established the other way. In an unanimous case reported in 5, Blatchford, 134, Mr. Justice Nelson and Judge Shipman held that the traveling fees to a witness were allowable to the extent the subpoena would run, that is, for any distance within the district, but for not exceeding one hundred miles from the place of trial unless the distance was wholly within the district. This ruling was affirmed by Judge Benedict in Beckwith vs. Easton, 4 Benedict, 357, and in the Leo 5 Benedict, 486, and by Judge Coxe in the Buffalo Insurance Co. vs. the Providence etc. Steamship company 26 Fed. Rep., 287. The rule has been settled in the same way in the ninth circuit by Judge Sawyer in Spaulding vs. Tucker, 2, Sawyer, 50. and in Haines vs. McLaughlin, 29 Fed. Rep., 70. I do not regard the cases of Parker vs. Bigler 1 Fisher Patent Cases, 285; Woodruff vs. Barney, 2 Fisher's Patent Cases. 244 or Dreskil vs. Parish, 5 McLean 241, as of any particular value in this discussion, as the last two of them, at least, put their decision upon the ground that a witness can in no case be entitled to his fees unless he is summoned by a regular subpoena issued by the court. The necessity of a subpoena was caretully considered by Judge Withey in Anderson vs. Moe 1 Abbott U. S., 299, and by Justice Gray in United States vs. Sanborn, 28 Fed. Rep., 299, and both of them came to the conclusion that a witness who, in good faith, comes to court to testify in a pending suit, whether he comes in obedience to a subpoena, or at the mere request of one of the parties, attends "pursuant to law," and is entitled to his fees. I have no doubt, myself, of the correctness of these rulings, and have always followed them in this district.

There is no settled rule in this circuit upon the subject of mileage, although in the case of Anderson vs. Moe, 1 Abbot, U. S. 299, Judge Withey held the fees of witnesses to be taxable though they came from New York, and more than a hundred miles from the place of trial. In determining this question I think that considerable weight should be given to sections 863 and 876, the former permits the deposition of a witness to be taken when he lives at a greater distance from the place of trial than a hundred miles; and the latter of which allows subpoenas to be served in other districts, with a proviso that in civil causes witnesses living out of the district in which the court is held do not live at a greater distance than one hundred miles from the place of holding the same. Construing these two sections together, the inference seems to me very strong that it was the intention of congress to limit the allowance of mileage to the distance of one hundred miles, where a witness lives in another district. There is no doubt very considerable force in the argument of Mr. Justice Story that the act is not peremptory in requiring the deposition of witnesses to be taken, but only that they may be taken and used. It is, says he, in Prouty vs. Draper, 2 Story, 200 a mere option given to the party who wishes to use the testimony of the witnesses. In many cases, the presence of the witnessess in person, and their oral testmony on the stand may be indispensable to the true exposition of the merits of the case.

No desposition would, or could, meet all the exigencies, which might arise from the varying character of the evidence, or the necessity of instant explanation of circumstances, not previously known or understood. And his ruling appears to be invariable to allow the mileage of witnesses when they were not brought for the purpose of oppression, or without necessity, for the purpose of swelling the costs of litigation. His opinion appears also to be supported by the English authorities at that day. Notwithstanding this argument, however, it seems to me to be putting in the hands of a litigant a very great power to permit him to summon witnesses from distant states to attend sessions of the court here, although their testimony may be very material and important. If he be able to procure the attendance of a witness from New York and charge full mileage, I see no reason why he might not procure the attendance of an important witness from California or even from Australia or other remote quarter of the globe, and practically ruin the opposite party by the accumulation of costs. It is true there is reserved to the court the power of declaring that the testimony of such witnesses were not so material as to require their attendance from out of the district, yet if the testimony of such witnesses was shown to be important, it would be very difficult to say from what distance they might or might not be summoned.

My own practice has been in such cases to limit the mileage to one hundred miles, presuming that the testimony of witnesses who live at a greater distance, could, and should be taken by deposition. I would not say that if a case were presented by affidavit showing the materiality of the witness who lived out of the district, and at a greater distance than one hundred miles, that his deposition could not be satisfactorily taken, and that his presence were actually necessary at the trial, that I could not allow mileage for his attendance, but I regard this as a special case, and calling, perhaps for an exception to the general rule. For the present I shall adhere to the practice that has heretofore prevailed, and decline to allow for more than a hundred miles.

4. DOUBLE MILEAGE AND ATTENDANCE FOR THE SAME WITNESSES.

The witnesses of both the libellants were the same upon the hearing. It is claimed that they are entitled to mileage and attendance in each case. Their right of recovery was dependent upon the same state of facts, yet the cases were distinct. By sec. 848 when a witness is subpœned in more than one cause between the same parties at the same court only one travel fee and one per diem compensation shall be allowed for attendance, but in this case there were two distinct and seperate causes, and the inference certainly is that they are entitled to mileage and attendance in both cases. This was the view taken by Mr. Justice Blatchford in Wooster vs. Handy 23 Fed. Rep. 49, 64, by Mr. Justice Grier in Parker vs. Bigler, 1 Fisher Patent Cases, 285, and by Judge Hammond in Archer vs. The Hartford Fire insurance Co. 31 Fed. Rep. 660. I regard it as quite immaterial that the cases were tried together by consent, that the witnesses were sworn but once, that their testimony was but once written out, and used but once in the two cases. In the absence of any order consolidating the two causes, I think it clear that the witnesses are entitled to their mileage and attendance in both cases.

5. MAP AND SURVEY OF THE LOCALITY OF THE COLLISION.

An expert was employed at an expense of $70 to make soundings and prepare a map of that part of the Detour river in which the collision occured, with the landmarks upon the shore. I think it is clear this cannot be taxed as costs. Tuck vs. Olds, 29 Fed. Rep., 883.—July 19, 1888.

LITERARY NOTICES.

THE CENTURY FOR SEPTEMBER —An unfamiliar face greets the reader in the frontispiece of the September Century, that of Edward, Thring, the late head master of the Uppingham grammar school, England. This is a compliment paid to an educator pure and simple. George R. Parkin's illustrated article on Uppingham describes an ancient school worked on modern ideas. The pictures are by Joseph Pennell and Irving R. Wiles. This is, in fact, an educational number of the Century as it contains many other articles on the subject, including two editorials. Other articles in this number are a continuation of the Life of Lincoln; George Kennan on Exile by administrative Process, A. C. Gordon on Hard Times in the Confederacy, Professor Holden's concluding article on Sidereal Astronomy; and an illustrated article by Mrs. E. S. Starr on Doves and Bird Music, by S. P. Cheney, father of the poet. Mr. Kennan, in the department of Open Letters, answers the question, Is the Siberian Exile System to be at once abolished? The ex confederate General Colston writes feelingly and reconstructively of the Gettysburg Twenty-five Years After; Minister Romero explains his relation with General Grant during the time of Grant's failure; and John Banvard and General Fremont tell about the canal at Island No. 10. The stories and sketches of the number are a continuation of Mr. Janvier's A Mexican Campaign; an illustrated story by James Lane Allen, the scene of which is laid in the monastery described by him in the August number of the Century; and Mrs. Roseboro's sketch entitled The Mountaineers about Monteagle.

THE ST. CLAIR FLATS CANAL.

The location of the St. Clair canal, whether it is on the American or Canadian side of the border, is a question now receiving the earnest consideration of the president. At first glance it would appear that the canal is in the United States territory, but a doubt has arisen which the president feels it incumbent on him to settle before he maps out his programme of retaliation. The determination of the question rests upon the interpretation to be given the decision of the commissioners under the sixth article of the treaty made at Utica. N. Y., June, 1822, defining the boundary line between the Dominion and the United States. The boundary, as it runs in the vicinity of the canal, was in that decision located as follows: To Lake St. Clair, thence through the middle of said lake in a direction to enter the mouth or channel of the river St. Clair, which is ususally denominated the old ship channel; thence along the middle of said channel between Squirrel Island on the south east and an island on the north-west.

Located at the mouth of the St. Clair river on the old ship channel is a large marsh, called the St. Clair flats. Running in a south easterly direction is a stream of considerable depth, carrying the waters of the river past the marsh into the St. Clair lake. In a north westerly direction is another mouth of the St. Clair. Now arises the question which of these mouths was accepted as the old ship channel. If the upper one, then unquestionably, the canal is on Canadian soil; if the lower, it is equally certain that the canal is on the American side.

The president has during the past four or five days called upon the best authorities on the subject as to their views concerning the location of

THE BOUNDARY LINE.

Some of these have contended that the lower mouth was regarded by the negotiators of the treaty as the ship channel; others are of the opinion that the upper mouth was the one navigated on; therefore, it must be accepted as the old ship channel. In support of their theory they produce a map of the survey made by Lieut. Byfierd, R. E., in August, 1817. On the map both mouths appear, but at the upper one two lights are marked, which is considered strong proof that it was the one used by navigators. Those who hold this view bitterly condemn the army engineers who located the ship canal where its possession might be disputed.

As an offset to this argument, the president's attention has been called to the fact that Canada has always conceded that the canal was on United States soil. In article 27 of the treaty of 1878 certain concessions are made, because "the government of the United States engages that the svbjects of her Britannic Majesty shall enjoy the use of the St. Clair Flats canal on terms of equality with the inhabitants of the United States." Again in the report of the chief engineer of the army for 1878 the following paragraph appears: It is gratifying in this connection to state that, of the few test cases of vessels inflicting damage placed in the hands of the United States district attorney, three have confessed judgment and paid the comparatively insignificant damages incidental with confession, thereby vindicating the law and establishing the unquestioned control of the United States over the navigation of this canal at slight cost to the involuntary trespasser, and with advantage to the general interests of commerce.

It was claimed that these facts establish the right of the United States to the territory through which the canal is cut. The advisors who are inclined to the opinion that the canal is on Canadian soil urge that the concessions mentioned will be as nothing if it is proved that the boundary line goes above the canal. All those who have been called upon by the president, however, join in the recomendation that the

TWO MOUTHS OF THE RIVER

be disregarded and that it be claimed that the line crosses the marshy delta and enters the St. Clair river between Squirrel and Herson's island. If the claim is established, all doubt as to the possession of the canal vanishes. At present it is considered a matter of first importance, the settlement of which should not be delayed.

There is an old man named Patrick Murphy living at Erie, who served under Rear Admiral Jouett of the navy for many years, who was with Byfield when he made the survey in the vicinity of the canal. This he proposes to prove to the president. Murphy was a pilot on board the Michigan when Admiral Jouett commanded that vessel. He then practically illustrated the argument that the lower mouth was the old ship channel. Admiral Joulett was thoroughly convinced and says that the late Senator Zack. Chandler, who was with him, was equally certain that the old ship channel was the lower mouth.

Mr. Parsons, of Cleveland, is now here in the interests of the canal. A block has occured, and he wishes the appropriation for the improvement to be made available at once. The president has assured him that he will do all in his power to aid him in securing the passage of a bill. Mr. Parsons has also had something to say to the president as to the location of the canal. He thinks there is little occasion to worry about the matter, as the canal is, without doubt, on American territory. The United States built the canal, and has since made large appropriations for its maintenance. The lights at the upper and lower ends were erected by this government, and have been kept in efficient condition at its expense.

The president will soon come to a conclusion, and will proceed in the preparations for a vigorous execution of the retaliatory policy. —*Boston Herald.*

THE race for the silver cup, given by M Strachan for sailing skiffs, came off Monday below Cataraqui bridge. The Mayflower won, and it being the third time that she won, the cup belongs to her. The following is the time the different skiffs started and the time they finished: The Mayflower, owned by J. Bowman, started 3. 2. 30 and finished 4. 7. 45; Cygnet, owned by T. Sherman, started 3. 2. 45. and finished 4. 14. 15; Thistle, owned by Mr. Strachan, 3. 3. 15., and finished 4. 17. 15; Ripple, owned by S. McBride, started 3. 3. 45. and finished 4. 19. 45. The race was over a course 2½ miles in length. The skiffs had to go over it three times. The time made by the Mayflower is considered very good.

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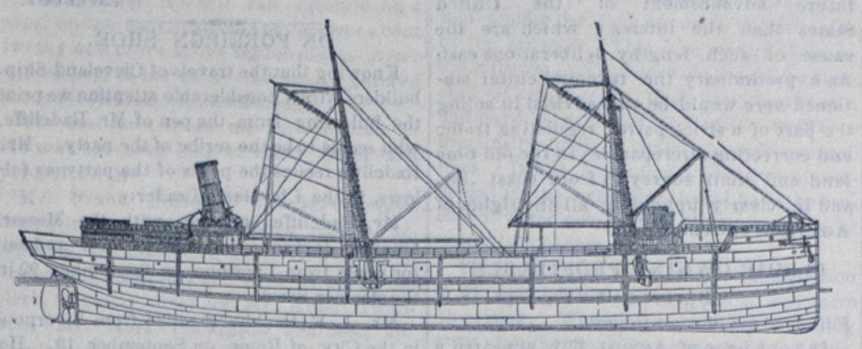

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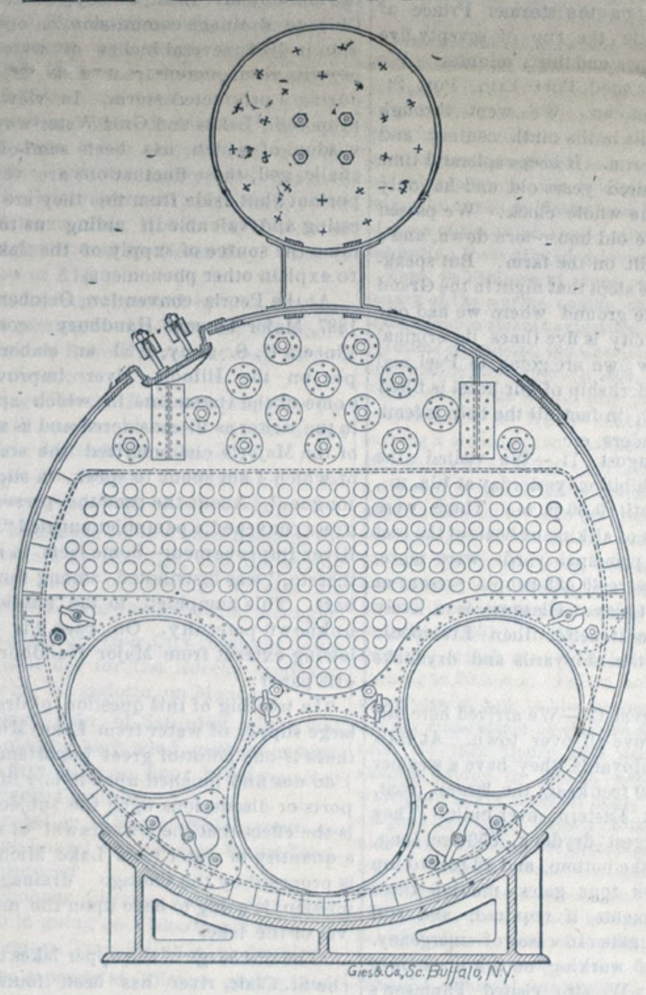

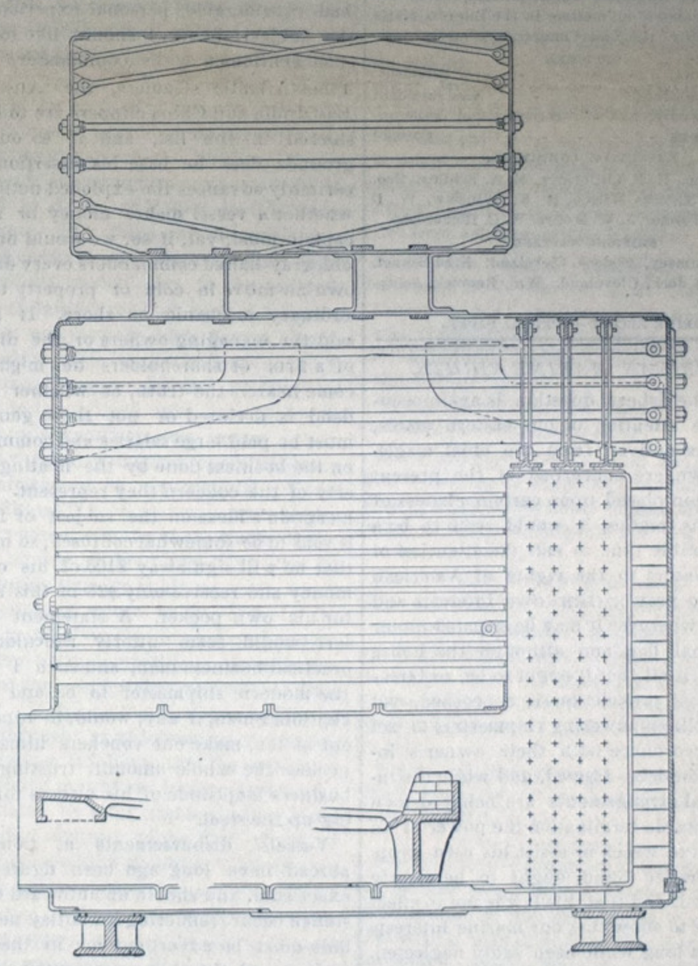

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BRANCH OFFICE:
252 South Water Street, Chicago, Illinois,
THOMAS WILLIAMS, Associate Editor.

TERMS OF SUBSCRIPTION:
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MARINE RECORD—OFFICIAL PAPER.

AMERICAN MARINE RIGHTS.

While the fishery question is again occupying the attention of our eastern states, and our executives, from the chief magistrates down, are concerned at the present construction placed upon certain clauess of the various treaties, it would seem to be a most desirable time to call the attention of our legislators to the rights of American citizens to protect their own interests and property wherever it may be situated under the national flag, and although the house bill 10041 is all that it ought to be, so far as the criminal jurisdiction is concerned, yet another bill empowering shipmasters to act only in accordance with their owner's interests should be framed, and while the international arrangements are being drawn to an amicable termination the power of an American to wreck or assist his own property, wherever found, ought to be clearly determined, and that this law is not in effect only goes to show that our marine interests have for a long while been sadly neglected. For, although this same question has, time after time, been brought before congress, yet no relief has been granted, nor have our rights been vindicated and upheld by the spirited legislation of gentlemen who are fully alive to the importance of the subject. Canadians have no more right to board an American vessel in distress, unless requested to do so by the person in charge, than one man has to invade another's private apartments on shore, and the right our neighbors readily concede, and, having come to this determination, we almost wonder why the necessary legislation is not brought into force. The captain of an American vessel while in a foreign port, as in neutral waters, represents the dignity and respect due to the United States flag, and to have a legal right to support the assumption laws, the direct meaning and sense of which may not be misconstrued ought to be framed, and the legislative groundwork of the most advanced and wise marine laws formed for the future guidance of our increasing mercantile marine fleet. And in connection with this we believe that the great lakes will have the honor of deciding the question of the survival of the fittest in holding the vast north-west to the glorious bonds of the union; hence, every particle of our rights concerned with these inland seas must be jealously guarded, and our waterways held sacred whatever complications may arise between this nation and any other. And while moderate concessions on each side may be found necessary in order to adjust the differences on our eastern limits we would earnestly advocate a determined front to be maintained over the rights and privileges of this nation on the chain of lakes. There are many eminent men in this locality at the present time who believe that these inland seas are destined to be a greater factor in the future advancement of the United States than the interests which are the cause of such lengthy deliberations east. As a preliminary the revenue cutter stationed here would be well advised in acting the part of a strict patrol, regulating traffic and correcting discrepancies in the old time land and limit surveys of our coast line, and in clearly upholding all the rights of American citizens afloat.

IS SHIP OWNING PROFITABLE?

BUFFALO, N. Y., Sept. 18.

Editor of the Marine Record:

In your issue of August 18th appeared a suggestive article headed, "Is Ship Owning Profitable," and after propounding the argument the writer, without farther preamble, turns the question at once from an American interest to a foreign one, and dwells on the many unfavorable points that an English owner has to contend against. Surely, Mr. Editor, it is not necessary for us to canvass the business connections or the financial standing of these foreign vessel owners, sufficient for us to know that they are building and rebuilding all classes of vessels each year, and that they are navigated and handled in commerce to the detriment of our own ships. This is a clinching argument so far as regards the non-profitable part of the question.

Yet, it was not to call your attention to this fact alone that I have taken the liberty of addressing you, but more especially to notice the wrong impression that many people might have of modern shipmasters if the former article was left uncontradicted. The writer of the article states, unfortunately, that the modern European shipmaster does not bear a very high reputation for honesty, and since a portion of my career was spent among this class of men I have had considerable personal experience on the subject; hence, I should like to ask if such gentlemen as the commanders of the Trans-Atlantic steamers, the Australian, East India and China clippers are to be considered in the list, and if so on what grounds does he base his assertion? He certainly advances the exploded notion that whether a vessel makes money or not the captain must, yet, if so, we would not meet old, gray-haired commanders every day who own no more in coin or property than an ordinary mechanic on shore. If he had said the managing owners or the directors of a firm of shareholders he might have come nearer the truth, as whether a dividend is declared or not these gentlemen must be paid large salaries and commissions on the business done by the floating property of the concern they represent. Again a captain's ideas on the subject of honesty is said to be somewhat confused, so much so that he will sign away $100 of his owner's money and receive only $25 of this amount for his own pocket. A statement of this sort would seem utterly ridiculous to a practical business man, and such I believe the modern shipmaster to be, and the exceptional man, if any, would, in nine cases out of ten, make out vouchers himself and pocket the whole amount, trusting to the business inaptitude of his owners for covering up the steal.

Vessels' disbursements at home and abroad have long ago been figured to an exact sum, and should an untoward circumstance occur rendering an outlay necessary bids must be advertised for in the public papers and the lowest accepted, consul's stamp being brought into use on many occasions, thus rendering fraud an impossibility.

WHEELROPES.

OIL ON TROUBLED WATERS.

To the Editor of the Marine Record:

The effect of this ancient preventive extends back to biblical history, and has been in constant practical use for the last century and I have recently been informed that a class of small vessels trading around Cape Horn have tanks placed and built in the stern and supplied with a contrivance so that any quantity of oil from a drop to a steady stream may be let flow over the crest of the waves. This regular use of the oil saves the vessel when bound to the eastward from being pooped by the heavy seas experienced in that locality, and were it not for this appliance men would hardly be found to ship in these vessels employed in the copper ore trade.

The oil bags have also been used to a great extent at the Cape of Good Hope, and on an iron-bound coast nothing yet invented has proved so useful as these oil drogues.

The fact may be worth considering that not only a particular kind of oil has this power, but many other products have the same qualities, and it now remains for an inventive genius to bring before the marine world a cheap and easily procured substance that sewed up in bags made of any open material would allow the fluid to escape in sufficient quantities to smooth over the curl of the breakers, or to load on to a rocket and be propelled in the manner described by the patentee of the late invention, or by any other device, which may come into general use. Certainly, I believe oil, tar, or varnish is too expensive a commodity to be universally adopted.

LIFEBUOY.

ON FOREIRGN SHOE.

Knowing that the travels of Cleveland Shipbuilders attract considerable attention we print the following from the pen of Mr. Radcliffe, who seems to be the scribe of the party. Mr. Radcliffe recites the perils of the party as follows, in the Cleveland Leader:

Mr. Radcliffe and son, with the Messsr. Quayle, Jackson, and others, meet and sail for home from Liverpool on September 22 in the steamer Servia.

Mr. J. F. Pankhurst sailed from Liverpool in the City of Rome on September 19. He is reported as having visited Portsmouth navy yard during the first days of this month where e saw Nelson's old battle ship Victoria. He left London about a week ago for the Clyde, and it is understood spent this last week in looking through the shipyards at the latter place.

The following sketchy outline gives some of the whereabouts of Messrs. Radcliff and son, the Quayle brothers, Jackson, and others who have largely traveled together. What is given are parts of letters written by Mr. Radcliff and presented under the dates on which the several journeys were made or the events took place. He says: We left New York Saturday, July, 21, at 3 p. m., all hands enjoying the best of health. We had elegant weather all the way over; not one of our party missed a meal. The 26th of July was Mr. Thomas Quayle's birthday and we made it pleasant for him, and he came down hand somely. Our best run was 447 miles a day.

LIVERPOOL, July 26,—We arrived here at 9 a. m. and went and called on his brother, John Rad, whom he had not seen since 1851, and he recognized at sight. So, under the leadership of Brother John, the Quayles, Louie, and myself are going to the Isle of Man in the morning on the steamer Prince of Wales. We made the run of seventy five miles in three hours and thirty minutes. We took a trap and visited Port Erin, Port St. Mary, and Castletown. We went through the old castle built in the ninth century and saw the old clock run. It keeps splendid time though four hundred years old and has only four wheels in the whole clock. We passed my old home, the old house torn down, and a large hospital built on the farm. But speaking of change, we slept that night in the Grand Hotel built on the ground where we had our shipyard. The city is five times its original size. Tomorrow we are going to Peel and Ramsey. The clerkship of our hotel is filled by a young lady, in fact all the help is feminine, lady bartenders, etc.

GLASGOW, August 11,—We visited the international exhibition yesterday at 10 a. m., and remained until 9.30 p. m. There were about 500 models of all kind of boats of the best makes. All the principal yards were represented. There were 49,433 people present at the exhibition today. Glasgow is a lively town and I like it better than Liverpool. We visited all the shipyards and drydocks here.

BELFAST, August 13.—We arrived here this morning and drove all over town. At Harland & Welf's shipyards they have a steamer on the stocks 560 feet keel, the largest boat, except the Great Eastern, ever built. They also have the largest drydock, 850 feet long, 50 feet wide on the bottom, and 82 feet to top of gates. It has four gates, making three seperate appartments if required, and still have an extra gate in case of emergency. They have been working on this dock since April 16, 1886. We also visited Thomson's in Glasgow and saw the steamer City of Paris the twin to the City of New York. They are both 550 feet keels. They are prettier modeled than the Belfast boats but do not carry as well or run faster. They have fine yards and well arranged but Belfast discounts them all. They manufacture everything themselves for yards, boats, and all. The shops are lit up with electricity. A place for every and everything in its place. It looks nice and is well run.

LONDON—Arrived here August 19, and went to Greenwich Friday and viewed the observatory, and saw the old clock; it has a twenty-four hour dial on it. Went and saw the British College, and across the way from it the Training School. Over 2,000 boys there now. Went further down the river and took in the London Drydock Company's yard. They have twenty docks in their company, and are very busy.

August 22—Quayle sbrothers, Jackson, and I crossed the frontier yesterday. All hands had to leave the train and pass the customs officers. I took my little grip containing shirts, collars, cuffs, and a clean handkerchief. The officer gave me a look, put his mark on my satchel, and we marched on. No questions were asked. How is that for baggage to cross the continent? We visited several places of interest in Antwerp, and arrived in Brussels, the capital of Belgium. We visited both houses of parliment, King's palace, which looks more like a prison than the home of a ruler. Visited the lace works and the art galleries, which are both ancient and grand, and saw numbers of artists copying in every gallery. Went to the exhibition here. It is not as good as Glasgow in mechanism, but grand in sculpture and fine arts. We visited the field of Waterloo and leave for Cologne on the Rhine tomorrow. Holland and Belgium beat all countries we have been in yet for hotel accomodations and high living.

PARIS, August 23.— Louie, Rad, Charles, Jackson, and myself are here. We have viewed all the public buildings, old castles, old ruins, monuments, seen the king's, prince's and queen's chariots. Streets are all washed every morning and it looks very strange to see the street deserted during the day and every body being asleep and all business done from 9 p. m. to 9 a. m. We met a number of friends who came over on the Umbria and had a fine time. We start for Liverpool the first of next week.

LAKE FLUCTUATIONS.

BY OSSIAN GUNTHRIE.

There are at least five distinct fluctuations of the lakes, viz: The annual, the secular, or irregular, atmospheric, tidal, the oscillations of impulse and those of rest, and also one or more current movements.

The object of this paper is to present to the reader these several movements of the lakes, with other interesting facts and phenomena and explain some of them from a standpoint of over forty years of practical observation and study.

ANNUAL FLUCTUATIONS.

These fluctuations occur as regularly as the changes of the season and average about fifteen inches at Chicago, the lake generally reaching the highest level in July, but sometimes as early as May, and again as late as September. Like all others, they are common to all of the great lakes, but are unequal in extent, the range increasing in their order from 1.2 at Superior to 1.9 at Ontario, Michigan and Huron being on the same level except as they are affected by unequal atmospheric pressure. According to observations taken at all stations around the lakes by Mr. L. E. Cooley, C. E., of the Chicago drainage commission, on one occasion in 1886, several inches of water temporarily disappeared from Lake Michigan during a protracted storm. In view of the proposed "Lakes and Gulf Water-way," the wisdom of which has been semi-officially challenged, these fluctuations are very important; but aside from this they are interesting and valuable in aiding us to determine the source of supply of the lakes and to explain other phenomena.

At the Peoria convention, October 11–12, 1887, Major Thomas Handbury, corps engineers U. S. army, read an elaborate paper on the Illinois river improvement, some of the statements in which appeared to the writer as ill-considered; and as a friend of the Major's characterized the statement of which I am about to speak, "a slip of the tongue." About the time the present Congress convened, a pamphlet entitled "Illinois River Improvement—Some facts in relation thereto," was distributed among the members. This pamphlet, to the public, is of unknown paternity. On page 9 is the following extract from Major Handbury's Peoria paper:

"In treating of this question of drawing a large supply of water from Lake Michigan, there is one point of great importance that I do not find touched upon in any of the reports or discussions upon the subject; that is the effect that the withdrawal of so large a quantity of water from Lake Michigan as is proposed by the Chicago drainage commission, is going to have upon the mean level of the lake.

"The discharge of the upper lakes through the St. Clair river has been found to be about 217,000 cubic feet per second. The mean level of Lakes Huron and Michigan is 581 feet above the level of the sea; that of Lake Superior about 20 feet higher. The lower lakes receive their supply from this upper lake, and the various streams that empty into them. This discharge is just equal to the supply, and the lakes remain at their mean level of 581 feet.

"Now, suppose we make another outlet in the *bottom* (the italics are mine) or side, if you please, of this lower reservoir capable of taking one-twentieth of this supply, which is the amount it is proposed to withdraw, what is going to happen in time to the mean level, to the depth of water in the various harbors and to the channel of the St. Clair river, which the government is spending so much time to improve? This is a question upon which the people at the other outlet of the lakes may wish to have something to say."

The Major's hypothetical question neither inspires the average mind with a belief in its honesty of purpose, or strikes the engineer as showing good sense. It has never been proposed to make another outlet either in the bottom or side, but in the brim of the dish, on the same level, and of about the same depth, as the natural outlet.

Under such circumstances it must be obvious to the average mind that when the flow through the natural outlet has been reduced by an amount equal to the full capacity of the artificial channel, about 4 per cent,—the reduction of the level must cease.

According to the theory advanced in this paper, taking into consideration the counteracting influences of the annual fluctuations, a point above the centre of this line would represent the extreme effect of navigation.

Robert E. McMath, C. E. of St Louis, in his paper read before the Engineers' Club of St. Louis, May 30, 1888, entitled "The Waterway between Lake Michigan and the Gulf," after considering the supply and natural outflow of the St. Clair River, and the size of and proposed outflow through the Desplaines channel, reaches the conclusion that it would require 4 45 years to lower Lakes Huron and Michigan one foot, or at the rate of 2.7 inches per year.

The conclusion is therefore safe that the effect will not be noticeable, except as a result of a long series of observations, such as was required to establish the fact of a tide in the lakes.

Mr. McMath's paper, by reason of his pecular experience is one of the most valuable papers published upon this subject, and should be read by all interested parties The Citizens' Association of Chicago has several hundred copies for distribution.

* * * * * * * * *

The reasons why the level of the lakes would not be lowered, as theoretically indicated, paticularly with referenee to navigation, are these: While it is obvious with that proposed channel open, the lake would not rise so high in summer, it is also clear that it would not begin to fall until about August, and during the succeeding five months of navigation would only fall about 1½ inches more than they would do in their normal conditions.

* * * * * * *

SOURCE OF SUPPLY.

The source of supply of the Great Lakes has occasioned much speculation, and in the minds of many is involved in mystery. Wonder is excited in the mind of the visitor at Niagara; he can hardly conceive the the source of supply of this mighty cataract.

In round numbers an average of 25,000 barrels of water, of forty gallons each, annually falls on every square acre of area within the basins of these lakes—16,000,000 of barrels on every square mile, and there are 231,000 square miles. The latest authorities give the outflow from the lake basins at one cubic foot per second, per square mile. This would be equal to thirty-seven million cubic feet of water per minute, but as about five-eights of this rainfall is evaporated and carried away by its nebulous appendage which stretches away in the distance a thousand miles or more, only about 2,600,000 of barrels per minute are tumbling over the cataract.

Subterranean sources are by many believed to exist; but when we know that the rainfall exceeds the outflow by more than two to one, and that the frosts of winter never fail to reduce, nor the rains and melting snows of spring, to raise the level of the lakes, we have no difficulty in reaching the conclusion that their source of supply lies within reach of these influences, and consequently could not be subterraneous.

* * * * * * * * *

The long immunity from low lake stage which vessel owners had enjoyed, and the construction by them of a large number of mammoth vessels, of greater capacity even than the high lake stage would allow to be fully utilized, had illy prepared them for an inevitable recurrence of the low stage. Undue alarm has been created among them lest the lakes were undergoing a permanent change; and this alarm has given occasion for many newspaper articles not calculated to allay it. If the reader will observe the line showing the lake stage of 1888, and notice the sharp upturn in April, and May (at this writing, June 12, the lake is still rising, and to-day shows 2.6 feet above city datum-with a light wind from the north which probably raised the water about four inches), he will find ground for belief that there is little danger of even reaching the low stages of 1872 and 1879, much less that a permanent change is taking place. However, to prognosticate what will or will not take place in this respect, is simply guessing at the weather.

ATMOSPHERIC FLUCTUATIONS.

These fluctuations are local and do not, like the annual and secular fluctuations, effect the average level of the lakes, the water being high at one point, while it is corresponding low at another. They are occasioned by changes in atmospheric pressure, and the effect of these changes is increased in varying degrees, according to its velocity, by the friction of the wind on the surface of the lakes, and hence have a wider range

than that directly resulting from atmospheric pressure upon the surface. Wind is the natural result of change in atmospheric pressure, and is generally preceded several hours by a change in lake level, which is a very reliable indication of approaching wind. (The effect of friction will be more fully shown under the head of Currents of the lakes.) These changes are known as Seiches on the Baltic Sea and Lake Geneva, Switzerland. Elisee Reclus, heretofore quoted, says: Schulten has proved that the Seiches of the Baltic, which are in every respect similar to those of Lake Geneva, are in direct connection with the barometric column.

TIDAL FLUCTUATIONS.

Mr. Crosman, heretofore quoted, says: The tidal change at Chicago, as determined by United States survey, had an amplitude of 1½ inches for neap tide and about three inches for spring tide.

CURRENTS OF THE LAKES.

There is a constant but imperceptable movement in all the lakes in the direction of their outlets. The wind always produces two currents, a surface current in the direction of the wind, and a return or under current, practically in the opposite direction.

The velocity and depth of the surface current varies with the velocity and duration of the wind. The under current, in its general direction, is in the line of easiest return to the point whence the surface current is supplied. The effect of these currents upon the range between atmospheric fluctuations in shallow and deep lakes is significant.

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NORMAL CONDITION OF THE LAKES.

The oscillations of rest, the smaller oscillations, appear to represent the normal condition of the lake to be a state of unceasing fluctuation; they precede or follow the great oscillations regardless of their impulse or influence, showing the same range through several consecutive days.

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FLUCTUATIONS OF TEMPERATURE.

The temperature of the water in the lakes never gets below 32 degrees Fahranheit, and rarely exceeds 70, an extreme annual range of 63 degrees, while that of the atmesphere frequently reaches 110 and sometimes exceeds 120 degrees. At 39.4 degrees water attains its maximum density, and in the fall as its temperature begins to recede at the surface it sinks or mingles with the water below, and this process is continued until the entire body has reached that temperature. After that, as the weather grows colder, the surface assumes a temperature of 32° and, by reason of its lighter specific gravity, if undisturbed, slowly by comparison, imparts this temperature to the water below, until the surface is covered with ice, when this process is reversed, and during hard freezing weather the tendency is for temperature to rise or return to about 39°.

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RESUME.

Reviewing the northern or Chicago divide from its beginning at a point on the west branch of the Chicago river, five miles from its mouth, to which point it is now navigable for large vessels, the distance to Lockport is only 28 miles, and the highest point is only 12 feet above datum, and that only for a short distance, and at the lowest point 12 feet below. There are short stretches of morainic deposit along the 13-mile level, reaching nearly to the water's surface, but it is believed no solid rock worthy of notice will be found above datum until we reach Lemont. This, as before stated, begins at 9 feet above datum and drops to 24 below in nine miles. In short, notwithstanding it tends to disprove the statements of Professor Gilbert in the Forum, if an average were struck in the elevation of the divide, Lake Michigan would to-day, to a considerable degree, be tributary to the Mississippi.

* * * * * * * * * *

"The drainage basin of the great lakes (shown in Fig. 1; omitted) is a reduction of a careful compilation of the best authorities." etc. It shows also that while the line of deepest water does not coincide with the middle line of lakes, it does approximately with the medial line of lake basin. It will further be observed that, with the exception of Lake Erie, the points of greater depth quite nearly coincide with the centre figure of each basin. This is believed to be a fact never before noticed.

TRANSFERRING THE CENTER OF TRADE.

Chicago is the trade center of the civilized world. To overcome the inertia of this trade center would be a stupendous task, one which will never be undertaken.

Thos. Drein & Son, of Wilmington, Del., have orders as follows: Eight 22 foot metallic life boats and four life rafts for the twin screw steamship building, by Cramp, for W. P. Clyde & Co., of New York; three 22 foot and one 24 foot metallic life boat and one 21 foot clinker built wooden life boat and raft for the Merchants and Miners Steamship Co., one 16 foot metallic, and one 16 foot wooden life boat and 300 cord life preservers for a New York ferryboat; two 16 foot metallic boats for Memphis Steamboat Co.; two 18 foot and two 16 foot metallic boats for the Gloucester Steamboat Co., Boston; two 20 foot metallic boats for the Lackawanna Steamboa Co., and two 20 foot metallic boats and 1,000 cork life preservers for Baltimore Steamboat Co.

LAKE CARRIERS' ASSOCIATION

TO CONSIDER AND TAKE ACTION UPON ALL GENERAL QUESTIONS RELATING TO THE NAVIGATION AND CARRYING BUSINESS OF THE GREAT LAKES AND THE WATERS TRIBUTARY THERETO, WITH THE INTENT TO IMPROVE THE CHARACTER OF THE SERVICE RENDERED TO THE PUBLIC, TO PROTECT THE COMMON INTEREST OF LAKE CARRIERS, AND PROMOTE THEIR GENERAL WELFARE.

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MARINE RECORD—OFFICIAL PAPER.

FORE AND AFT.

Arthur E. Bateman, the banker, who keeps a yacht that cost $75,000, was once an apprentice boy in the United States navy.

The Furness line, which has been trading from Baltimore to European ports during the past eighteen months, have just added another new steamship to their already large fleet, which now consists of nineteen steamships.

A correspondent writing to the Brooklyn Eagle wants steamboat whistle blowing abolished.

Schooner Agustus Hunt arrived at Bath, Me., Sept. 5, from Norfolk with 1900 tons of coal, one of the largest cargoes ever at Bath.

A submarine controllable torpedo, made by the Ward & Height company, of New Haven, has been shipped to France and will be used by the government there. George E. Haight, the inventor, has also sailed for France and will remain away several months teaching the Frenchmen how to handle the explosive. The torpedo is cigar-shaped and can be run under water at a rate of twenty-six miles an hour. It can be sent out from a vessel against another object two miles away.

A new line of steamships is about to begin running between Boston, Halifax and Charlottetown, P. E. I., under the name of the Canada Atlantic Steamship company. The first steamer to make the trip will be the Halifax, a fine new boat built this summer at Govan, Scotland, by the Londou & Glasgow Engineering and Shipbuilding company. She is a screw steel steamship of 1600 gross tons, with triple expansion engines of 2800 horse power, and a contract speed of 15 knots an hour.

The owners have decided to leave the name of their steam barge Arizona the same. She will be ready for business about the latter part of next week, when she will leave Port Huron for Toledo to load a cargo of coal for Green Bay. She is rated now as A1½.

Forest fires are reported by the captains of boats passing down. They say the smoke is so thick on Lake Huron that they cannot see any distance.

The barge Harriet Rose and propeller Yosemite will receive extensive repairs at the Wolverine drydock, Port Huron.

Thomas H. Walsh, of Cleveland, is rejoicing over the advent of a baby boy.

There continues to be a good demand for grain carriers at Chicago, and the supply being far short of meeting it, rates are naturally more firm and somewhat stronger.

The schooner Iron City brought down 1,230 tons of ore for the Eureka Iron and Steel works, Wyandotte, on Monday.

The heavy rain of Saturday night was accompanied by high wind, gusts at as high a rate as fifty miles an hour being reported by experienced seamen.

The propeller Albany which went on Bois Blanc Island was released by the Leviathan uninjured.

The schooner Charles Foster was damaged $100 in going on Fisherman's Shoal.

The Western Transit line is to double its warehouse capacity at Chicago, giving loading space for twenty-three teams at a time.

The damage to the steamer Toledo by fire amounts to $8,000. It will be two weeks before she can resume her place in the line.

The steamer St. Joseph, owned by the Harvey Lumber company, burned to the water's edge near Sarnia on Saturday. She was valued at $35,000 and is a total loss. The crew were saved.

The Scotch built steamship Algonquin has been playing in hard lines since her arrival on this side. Here at Duluth her stern was rebuilt so that she could steer well and now at Chicago her boilers have been found defective and had to be patched up, and when this was finished her steam gear broke down. Perhaps the glimmer of fact will come to these ambitious Canadian ship builders before long, and they will see that in not one case has an English built ship proved a success on the lakes. The C. P. R. steamships have been far from the success their cost would indicate. Canada should and can build her own ships better than the Clyde can turn out.

The dense smoke which overspreads Lake Huron renders navigation extremely perilous. Forest fires prevail all the way to Point aux Barques, and unless a heavy rain comes soon the risks to vessels will increase.

The construction of the great ship canal from Liverpool to Manchester is certainly being prosecuted with vigor. At the end of last month there were employed on the canal 8,568 men and boys, 161 horses, 98 locomotives, 3,221 wagons, 51 steam navvies, 49 steam cranes, and 104 pumping and other steam engines. At this rate it will not be long before Manchester becomes a seaport.

The tug Castle released the schooner Sunrise, ashore at Grindstone City and will tow her to Port Huron for repairs.

The steamer Haskell ran aground on a shoal on the American side of the river about twenty one miles above Ogdensburg. After a good part of her cargo had been lightered she was released without damage.

The keel for a three masted schooner of 575 tons has been laid at Kelly & Spear's yard, Bath, Me.

Mr. Frank Lenhard, who has occupied the position of night clearance clerk so acceptably this season, has received a deserved promotion, assuming the post of statistical clerk, formerly held by Mr. Albert Thunnell. Mr. Burt Thompson has been appointed night clearance clerk. Having been connected with Maytham's tug office several years and being otherwise well fitted for the place, the appointment is a specially good one.—*Buffalo Express.*

Charles Frederick Herreshoff, of Bristol, died there Saturday evening last, aged 80 years. He is the father of the famous Herreshoffs, the boat builders. Many of the fastest boats built by the Herreshoffs when they began business were modeled by the father.

Tallymen report that there are very few grain shortages now, even from the ports most complained of last month.

The schooner Sunrise, ashore on Port Austin Reef with grain for Buffalo, has been released. She will probably be taken to Port Huron for repairs.

The board of trade have awarded a binocular glass to Captain G. Cocurullo, master of the Italian ship Ciampa Emilia, of Castellamare, in recognition of his kindness and humanity to the ship-wrecked crew of the British schooner Wenonah, of Swansea, which was abandoned at sea on the 14 h of October, 1886.—*London Nautical Magazine.*

REPORT OF THE SELECT COMMITTEE ON PILOTAGE.

Your committee have held 20 sittings in which they have taken evidence from pilots and the representatives of pilots belonging to various ports in the United Kingdom, in regard to complaints which have in recent years been made by certain members of their body as to the existance of grievances in the pilotage service. They have also taken evidence from leading members of some of the chief local pilotage authorities respecting these alleged grievances.

Thus, in 1888, we at once celebrate the centenary of the marine engine and the jubilee of trans-oceanic steam navigation. The first really practical steamboat, the Charlotte Dundas, was designed by Symington in 1801, and tried on the Forth and Clyde Canal eary in 1802. It was propelled by a Watte double-acting engine, turning a crank on the paddle shaft, and was able to tow two vessels, each of 70 tons burthen, a distance of twenty miles against a strong headwind in six hours. The proprietors of the canal fearing injury to its banks, declined to adopt the new system of towing, and we hear of nothing further being done by Symington. The next step in the matter was taken by Fulton, in America, who, in 1807, built the Clermont, a steamer 133 feet long, which ran 150 miles in 32 hours, returning in 30 hours. Fulton built a number of other vessels, and to him belongs the honor of having made steam navigation a pecuniary success. In 1812 Henry Bell designed the first steamer plying on British waters, the Comet, which ran at six miles an hour, but was soon eclipsed by John Wood's Elizabeth, running nine miles an hour, the first remunerative steamer in Britian. From this time steamers gradually increased in numbers and in size, till in 1838 regular transatlantic navigation was established by the voyages of the Sirius and Great Western. They were not the first steamers to cross the Atlantic, that was done in 1819 by an American vessel the Savannah, and again in 1833 by the Royal William. The voyage of the Sirius was soon followed by the establishment of some of the well known steamship lines which are still in existence. Mr. Dyer then described the characteristics of the early engines of paddle steamers, and afterwards the introduction of the screw-propeller in the Archimedes in 1839. The next great step was the compound-engine, the first vessel fitted with this being the Brandon, in 1854. Her rate of consumption was 3¼ lbs. of coal per I. H. P., while the lowest previous rate was 4 to 4½ lbs. The Pacific Steam Navigation company adopted the new type of engine; but for some years little progress was made with it, except by that company. With the introduction of the receiver type of engine, with cranks at right angles, a rapid increase took place in the number of compound engines about 1868. Steam pressure soon went up to 80, and then to 100 lbs., and these high pressures led up to the introduction of the triple-exansion engine. The old compound-engine, however, practically held the field till 1881, when Mr. Kirk designed and constructed the engines of the Aberdeen. Her success has led to the general adoption of the new type. Mr. Dyer then went on to give historical paticulars of the marine boiler, the surface condenser, &c, and concluded his very interesting paper by an account of the net result of the improvements of the last fifty years as affecting the consumption of coal, both compared with the I. H. P. and with the cargo carried given distances. Many of these paticulars have been often stated in various connections in our pages, and we therefore do not reproduce them.—Nautical Magazine.

WATERWAYS AND RAILWAYS.

The new railway regulation act passed by the English house of commons makes some decided changes in dealing with the difficult subject of transportation regulation. It provides that freight rates on the canals shall be reduced by the commissioners whenever it shall appear that they are made unjustly high by the railways. This is so worded because the railways in England have acquired ownership of many of the most important canals, and have so arranged the water tariffs as practically to divert traffic to their own rail lines. It was the opinion of the house of commons that the merchants should have the benefits of water competition, if necessary, under compulson of law.

The question of water and rail competition is an old one, but has lately called out more discussion. Waterways are today receiving great attention from the governments of Continental Europe. It is proposed to make the already fine rivers of Russia, Austria and Germany more capable of carrying a large freight traffic, while there are many proposals for artificial canals, such as the one to the Baltic with the North Sea. In the United States we have already had deep sea conventions to urge the necessity of a suitable port upon the Gulf of Mexico and the importance of the matter to the citizens of Colorado and other western states, as well as the one more immediately interested—Texas. It is undoubtedly true that the days of usefulness for short and disconnected canals have passed away. Such waterways not forming parts in through routes cannot compete with the railroads, but the case is otherwise where such great through lines by water can be established. There is no danger of the commerce of our lakes falling into permanent decay, nor indeed, upon any canal or river connecting with them, except from neglect on the part of the government and the people directly concerned.

Are such rivers and canals, supported at public expense, unnatural and unjust competitors with railroads? Facts do not show any real ground for this assumption. At first, indeed, we see the waterways taking from the railroads, by reason of lower prices, a certain amount of business which, were it not for the waterway, would go by rail; but the loss is not a real one. There are certain articles which for successful manufacturing demand the lowest possible rate per ton, a rate which for any distance the railroads, under our present circumstances, can scarcely be expected to quote, or if they do it is under compulsion. But these raw materials once moved at cheap water rate, there arise large manufactories which give to the railroads carloads of finished product, tons of freight to and fro at comparately high figures, breadstuffs and supplies to the tradesmen and finally a large passenger travel. All these advantages to the railroad arise from the establishment of a manufacturing center, whose profits in turn may depend upon the cheap water carriage of its raw material. Under such conditions it is an economic error to give undue prominence to the cheap traffic lost to the rail carriers without regarding the far more valuable tonnage at higher rates which these conditions secure to it. It is in the long run no disadvantage to a railroad to have even severe water competition; the situation of many of our most thriving railroads confirms this view. If this be the true view to take of the establishment or maintenance of connecting waterways, it follows that the opposition to them on the part of our transportation men is not dictated by a far sighted policy, and their evident distrust of the first effects of the water competition should be allowed only its weight in considering the enlarging of our water system. What will in the end benefit the manufacturers and dealers will in the end benefit the carriers also. Here, too, appears the error in allowing the railroads to buy up and abandon or but partly use their competing canals. The Pennsylvania railroad has followed English precedent in this respect, as we think to its own detriment as well as to that of town and cities interested. At least no more of our waterways should pass into railroad control without carefully guarded provisions as to operation. This, then is the justification for the spending of money by the government, either state or national, upon improved and cheaper means of transportation. It is a public work, which if done in reason and with a wise policy, must insure to the benefit of all our interests our railways being included.—*Iron Age.*

The Northwestern Fuel Company, having built extensive coal docks at West Superior, will hereafter receive all vessels at that port or Duluth at its own convenience and charters will be made only on that basis. Vessels bound for those ports with coal for that company will not know until arriving at a near destination where they will unload. As the ports are but a short distance apart they will not suffer any material inconvenience.—Buffalo Express.

Around the Lakes Continued from 1st Page.]

EAST SAGINAW.

A long rakish craft having the appearance somewhat of a revenue cutter, with two spars and a sky-scraping smoke-stack, worked her way up from the mouth of the river about 8:30 o'clock Wednesday night and made a landing at Young Brothers' wharf, Bay City. It was the tug Sea Gull, purchased by the Reid Towing company, of Bay City, at New York last winter and brought to the lakes for the purpose of engaging in raft towing. She came into the river Wednesday afternoon with a raft of five million feet of logs, which she brought from St. Ignace, having started on her way down ten days ago. The Sea Gull is a monster craft of her class, and her like has never been seen on Saginaw river. She has great power and will make a splendid boat for raft towing after she has been housed in forward and a reef taken in the smokestack. She has capacity for carrying six hundred tons of fuel. She turns a twelve-foot wheel, and draws sixteen feet of water. She will remain in port two weeks.

BUFFALO.

An unreported collision between the H. J. Mills of the Hecla's tow, bound down, and the Fontana, consort of the Kaliyuga, bound up, at the St. Clair Flats Canal, was adjusted here yesterday. The Mills received $157.50 from the Fontana, which was most at fault. The Mills will make temporary repairs here.

One of the crew of the burned propeller St. Joseph was here yesterday. He states that nobody knows how the fire originated except that it was from the furnace. Before the hose could be turned on it the heat was so great that the engineer could not reach the pony engine to put it in operation and there was nothing to do but to beach her. She is insured for $10,000; according to some statements, for twice that amount. No examination has been made of her, but part of the crew is watching her. This seems to be necessary for the pirates alongshore tore down her foresail to make off with it while the crew were ashore to escape the fire. The boat's stern is in about 30 feet of water.—*Buffalo Express.*

The boiler of Captain Maytham's new tug, building at O'Grady's, was being dragged to destination from Riter Bros.' shop yesterday, where it was built. It is of Otis steel, 17 feet 10 inches shell by 14 feet long, being the largest tug boiler ever built here. The engine is to be 23 by 24 and 140 pounds of steam will be allowed. This will give the tug more power than any ever built here. She will be out in about three weeks.

The barge Mears is in Mill's drydock for bottom calking.

LAKE FREIGHTS.

The demand for ore tonnage especially continues active, and in the light of reported charters yesterday ore carrying rates are quotable at $1.35 from Escanaba, $1.55 from Marquette, and $1.80 from Ashland, or Two Harbors.

Coal rates remain unchanged. Charters: steambarge H. C. Schnoor, coal, Cleveland to Cheboygan, 50c; steambarge Burlington and barge Transport, coal, Cleveland to Bay City 40c; steambarge Michigan, coal, Cleveland to Point Edward, 40c.

The steamers Kasota and Missoula load coal at Buffalo for Duluth on contract.

BUFFALO, September 19.—Coal freights firm. Milwaukee rate advanced 5c; others unchanged. Vessel men hold that grain freights are as good as ore, so coal rates should be the same to Milwaukee as Chicago.

Canal freights dull and unsettled. Wheat, 3¾c to 4c; corn, 3½c to 3 3 5c to New York.

CHICAGO, September 19.—Ready tonnage was in good demand here but there is a scarcity of vessels. Rates to Buffalo are strong, being quoted at 3¾c for wheat and 3½c for corn. Erie canal rates are quoted at 4¾c for wheat and 4½c for corn.

TOLEDO, O., September 19.—Charters: Schooners George W. Davis and Jennie White, wheat to Buffalo at 2½c.

The collision between the fire boat and the Willow street bridge proves to be more serious than it was thought at first. The boat struck with such force that it went into the bridge almost a foot. It is said that the boat was reversed, but that her engines are not powerful enough to give her a sudden stop. Engineer Rice was called to the scene of the collision, and as all travel by water was stopped, he decided that the best thing to do was to cut the bridge in two immediately. A detachment of men were put to work, and half of the bridge was cut off and placed on lighters, which had been provided underneath it. On Saturday morning the lighters, with half the bridge on board, were towed to one side, and vessels began to pass through. A meeting of the board of improvements was held yesterday morning for the purpose of taking action on the matter to be decided what should be done. The question will be brought before the board at the meeting on Monday morning. There is some talk of building a temporary pontoon bridge for use until the bridge is rebuilt.

Shipments of iron ore for the season are as follows: Marquette range, 1,182,701 tons; Gogebic range, 867,051 tons; Milwaukee range, 706,744 tons; Vermillion range, 36,609 tons.

First-class Merchant Tailoring.

Done in the nobbiest style, according to monthly new fashion plates; made by none but first-class mechanics and none delivered unless to the entire taste of the Customer, can be procured by *Jos. L. Kohn*, practical tailor and cutter at the tailoring department of *Kohn & Co.*, 213 Detroit street, second door from corner Pearl known as Boston Dry Goods Store, Cleveland, O.

In the rear of the above Store a fine stock of the latest patterns of *Cassimeres, Cloths, Over Coatings, Silk Vestings,* can be found and owing to the fact, that this young genius of a garment cutter Mr. Jos. L. Kohn does his own cutting, (which alone saves $30 per week) and has the appartment in the above Store free of any expense it enables him to Save the Customers from $6 to $10 on every Suit of Clothes. Convince yourself by calling at 213 Detroit street, second door from corner Pearl known as Boston Dry Goods Store of KOHN & CO., Cleveland, O.

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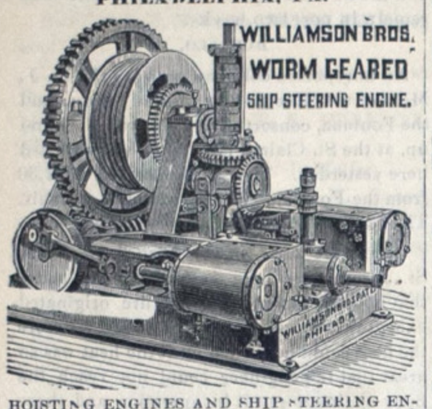
COR. RICHMOND AND YORK STS.,

PHILADELPHIA, PA.



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STM'R ATLANTIC,

Captain J. R. Jones.

LEAVES CLEVELAND EVERY FRIDAY AT 8 P. M., CITY TIME,

For Mackinaw, St. Ignace, Cheboygan, Alpena, Oscoda, and way ports. For passage or freight apply to ANDERSON & CO., Agents, Dock ft. of Superior-st.

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Copper, Brass and Sheet Iron Manufactory.

IRON PIPE AND FITTINGS.

Agent for Davidson's Steam Pumps, Amazon Boiler Compound, and Orme Patent Safety and Relief Valve.

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No one should leave port without a box of M. M. Glekler's marinecigars.

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THE HANDSOME NEW FORE AND AFT SCHOONer W. C. Kimball, built at Manitowoc last winter, outfit all new and complete, 65 feet over all, 17 feet 4 inches beam, 4 feet 9 inches hold. Tonnage 31, 40 Apply to A. D JOHNSTON, Manitowoc, Wis.

YACHT FOR SALE.

SLOOP YACHT NORDEN, 45 feet water line, 13½ feet beam, in first-class sailing condition, for want of time to run, is offered for sale at a bargain. Address F.W. FINCHER, Pentwater, Mich.

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THE TUG MYRTLE, of Sandusky, Ohio, for sale cheap. Is in first-class condition. For particulars write to FRED GROCH, Sandusky, O.

FOR SALE.

BARGE COL. BRACKET—She carries 260M feet of lumber, 420 tons of coal. Had $900 worth of repairs last season. Fit out good. Price $1,600. Mention this paper. ED. J. KENDALL, Port Huron.

FOR SALE.

A steel barge 125 thousand capacity; will carry 1200 passengers, only one year old; a good twelve mile boat in the best possible condition; will be sold reasonable and on easy terms. For further particulars inquire of MARINE RECORD, Cleveland, Ohio.

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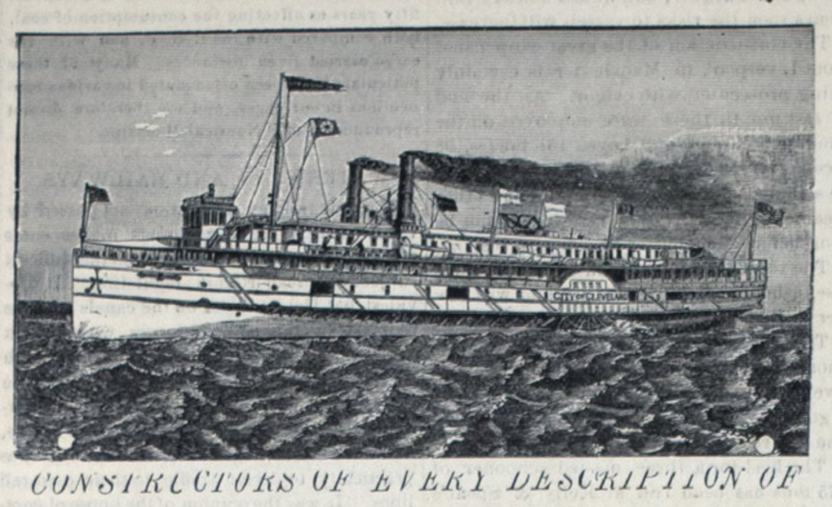

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WRECKING TUG

LEVIATHAN, CAPT. M. SWAIN, STATIONED AT CHEBOYGAN

With plenty of Wrecking Material on board and in Warehouse.

A PUZZLE.

Which Man is the Tallest?

If you measure carefully the figures in this cut you will find that the man who appears the shortest is in reality the tallest. If you will coal your boats at my dock, adjoining S. F. Hodge Iron Works, you will get better dispatch and better COAL than at any other place in the city.

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OFFICE:

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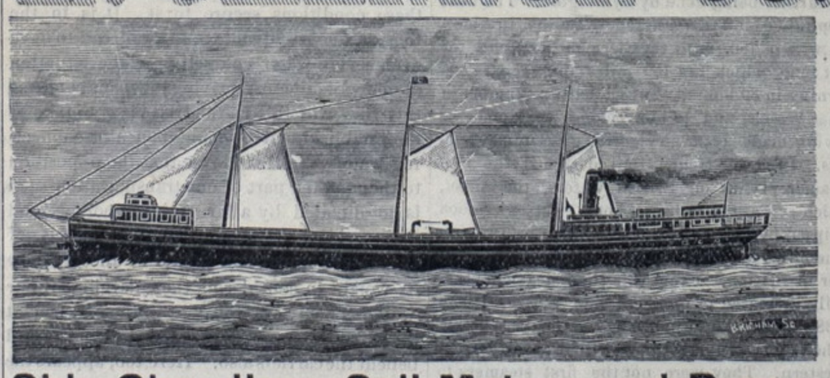

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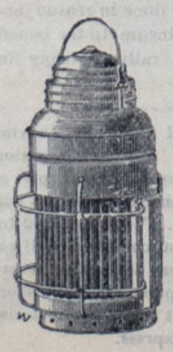
For Steamers and Sailing Vessels.

PATENT FLUTED LENS AND PERFECT COLORS.



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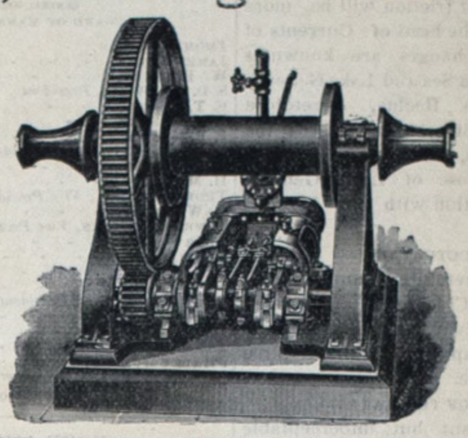
Specially adapted for Boat uses, Raising Sail, Hoisting Anchor, Pulling in Tow Line etc., etc.



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MANITOWOC DRY DOCK.

Dry Dock will admit Vessels of 1100 tons drawing 12 feet. Have also a set of Boxes in connection with the Ship yard capable of lifting Vessels of 350 tons. A large stock of SPARS CONSTANTLY ON HAND.

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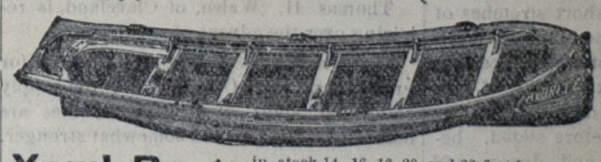

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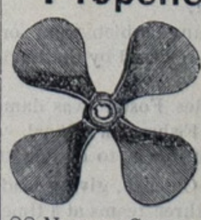

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Where all kinds of *Flannel* and *Cotton Shirts*, from the cheapest 50c to the finest Custom made fancy shirt ☞*are made to order*☜ and none but our ☞own home made☜ bearing our Trade Mark, can be found constantly in stock ready made, is the Boston Dry Goods Store of Kohn & Co., 213 Detroit street, second door from corner Pearl, Cleveland, O. All our Shirts 54 inch wide, 40 inch long and extra well sewed. We also announce, that we are the only manufacturer, who can procure the genuine U. S. Navy flannel, of which we make *double* and *single breasted Sailor Shirts*, non-shrinkable, fancy pleated *Cloth Shirts* made in the latest styles, Canadian *Flannel Shirts*, *water proof Shirts* and more especially Scarlet Medicated *Flannel Under Shirts* and *Drawers*. ☞Call also for our Custom made *Jean Pants*, *Overalls*, *Jumpers*, etc., or leave your measure for the same.

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Copper-smithing of all Kinds.

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Are prepared to Manufacture and do General Repairing on Marine Engines and all other Machine Work.

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Lake Shore & Michigan Southern.

Commencing Monday July 13, 1888. The time given in the figures below is the new standard (Ninetieth meridian) time, which is thirty-three minutes slower than Cleveland time proper.

Eastward.	Arrive.	Depart.
No 4, Fast Limited Express	*2 55 A M	*2 55 A M
No. 6 N. Y. & Boston Ex	*1 35 A M	*1 40 A M
No 8, N. Y. B & A Express	*8 25 A M	*8 50 A M
No 26, Elyria Accommodation	†7 45 A M	.....
No 10, Toledo Ac'm via Sandusky	†11 05 A M	.....
No 10, Toledo Accom via Norwark	†11 05 A M	.....
No. 24, Buffalo Accommodation	.....	† 7 00 A M
No. 10, New York & Boston, "Flyer"	.....	*11 50 A M
No 12, N Y & B Fast Express	*2 35 P M	*3 45 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via Sandusky	†9 40 P M	.....
No 26, Conneaut Accommodation	†4 25 P M	.....

Westward.	Arrive.	Depart.
No 1, Fast Limited Express	*12 15 A M	*12 15 A M
No. 23, Cleveland Express	*2 15 A M	
No 3, Chicago Express via "	‡5 30 A M	5 45 A M
No 25, Mich Accom Norwalk	.....	†5 45 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†3 20 P M
No 5, St Louis Ex via Sandusky	*10 50 A M	*10 55 A M
No 9, Chi Pac Ex via Norwalk	*6 55 P M	*7 15 P M
No 31, Elyria ac to Elyria only	.....	†4 30 P M
No 27, Conneaut Accommodation	†8 10 A M	.....

Sunday train for Nottingham—Depart 9:20 a. m. and 1:00 p. m.; returning, arrive at 9:20 a. m. and 4:45 p. m.

Reference marks—* Daily, † daily, except Sunday, ‡ daily, except Monday.

A local Cleveland and New York sleeper, also sleeper for Boston, and dining car daily on No. 10, leaving Cleveland at 11 50 A M.; arrive Grand Central depot, New York, 7.30 a. m.

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Marine, Stationary, Portable, Locomotive and Upright Boilers; also, Salt Pans, Smoke Pipes and Heavy and Light Plate Iron Work of all Descriptions.

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WE STAND READY TO HAVE OUR GOODS TESTED AGAINST ALL OTHERS, AND WILL CHEERFULLY SUPPLY SAMPLE CAN OR BARREL, NOT TO BE PAID FOR UNLESS SATISFACTORY AT THE END OF THE TRIAL; TO BE PAID FOR AT REGULAR RATES WHEN THE GOODS ARE PRONOUNCED SATISFACTORY.

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Steamboats, Tugs, etc, Coaled Day and Night.

DEALERS IN LACKAWANNA ANTHRACITE COAL.

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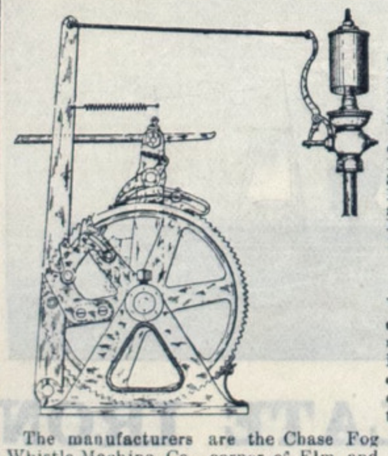

Chase Fog Whistle Machine

This machine has been placed on the following steamboats during the past year: SPOKANE, WALLULA, KASOTA, CHARLEMAGNE TOWER, JR, YAKIMA, MISSOULA, SITKA, FAYETTE BROWN, R. J. HACKETT, FOREST CITY, SPARTA, HAVANA, VIENNA, OSCAR TOWNSEND, CITY OF CLEVELAND, HENRY CHISHOLM, SUPERIOR, E. B. HALE, M. B. GROVER, J. S FAY, R. P. HANNEY, SMITH MOORE, CHARLES J SHEFFIELD, IRA H. OWEN, CAMBRIA, CORSICA, J. H. OUTHWAITE, SAMUEL MATHER, R. R. RHODES, COLUMBIA, AURORA, OHIO, WM. EDWARDS, S. E. SHELDON, AUSTRALASIA, RALEIGH, BULGARIA, ROUMANIA, J. F. EDDY, HIAWATHA, THOS. ADAMS, A. P. WRIGHT, GRADSTONE, E. P. WILBUR, SOO CITY, E. M. PECK, ROBERT L. FREYER AND NORTHERN LIGHT,

To the President and Board of Supervising Inspectors of Steam Vessels:

Your committee to which was referred the 'Ghase Fog Whistle Machine" beg leave to report: "That we have carefully examined the same and find that it blows at regular intervals, being worked by the engine, thereby insuring regular and continuous blasts for any length of time that may be required and would recommend it or similar device to owners of steam vessels as an additional safeguard to navigation.

H. S. LUBBOCK,
GEO. H. STARBUCK, } Committee.
W. D. ROBINSON,

The manufacturers are the Chase Fog Whistle Machine Co., corner of Elm and Spruce streets, Cleveland, O.

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BEACH AND OTIS STS., Philadelphia.

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Chains for Foundry Cranes and Slings.

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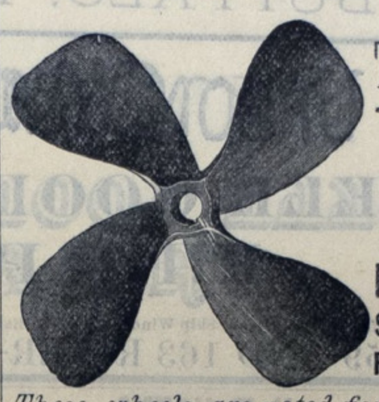

Triple Expansion Marine Engines, Three Cylinder and Fore and Aft and Steeple Compound Marine Engines,

High and Low Pressure Engines

SECTIONAL PROPELLER WHEELS,

PROPELLER, TUG & YACHT WHEELS

These wheels are noted for their extra speed and towing power or aproportionate saving of coal.

PRICES QUOTED ON APPLICATION.

WILLARD & FILLEY,

[SUCCESSORS TO R. L. WILLARD]

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DEALERS IN

LEAD, OIL, MIXED PAINTS, GLASS, PUTTY, ETC.

All Kinds of Steamboat and Vessel Work a Specialty.

Finished Liberty Caps, and Gilt Balls for Mast Heads and Flag Staffs Always on Hand.

57 Main Sreet, cor. Elm, Cleveland, Ohio.

THE ÆTNA GRATE.

G. C. BARNES, Agt.

This Improved Shaking Grate Especially Adapted to Burning Slack.

Glob Iron Works, manufac's.,

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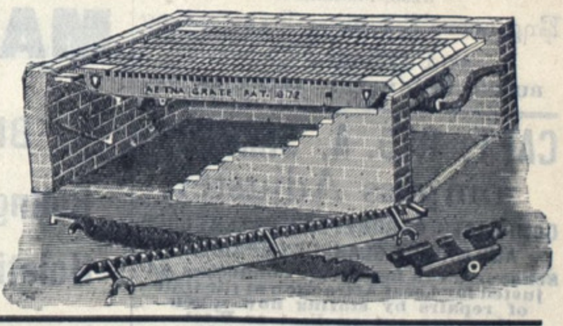

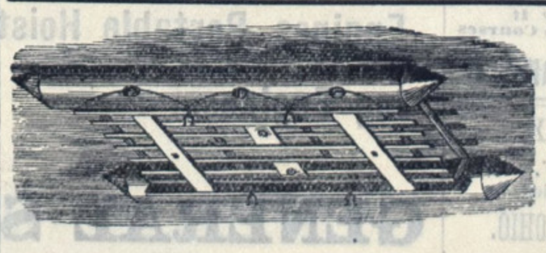

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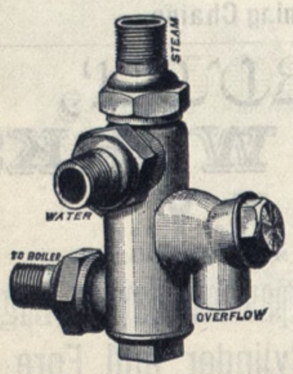

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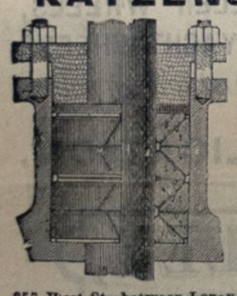

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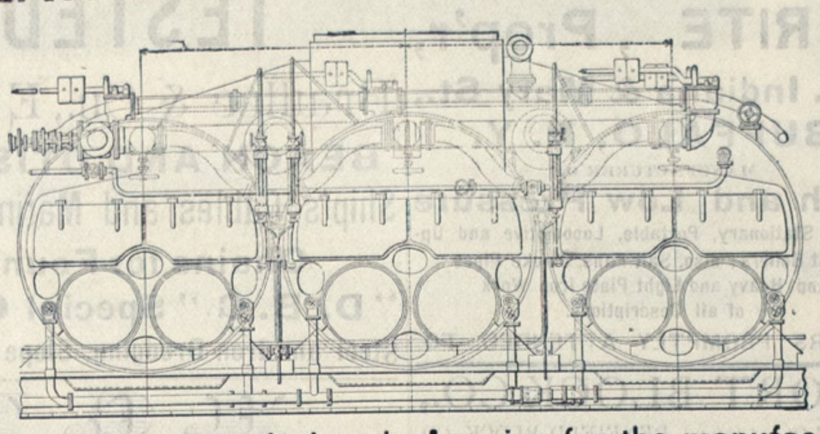

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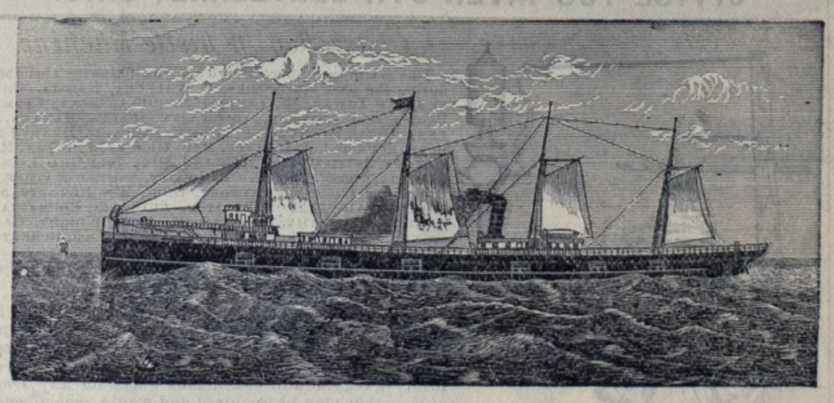

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